



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,860	02/09/2004	James A. Proctor JR.		9494

7590
JAMES A. PROCTOR, JR.
440 MOSSWOOD BLVD.
INDIALANTIC, FL 32903

03/17/2008

EXAMINER

SAM PHIRIN

ART UNIT

PAPER NUMBER

2619

MAIL DATE

DELIVERY MODE

03/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/774,860

Applicant(s)

PROCTOR, JAMES A.

Examiner

Phirin Sam

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-6, 8-10, 12-14, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,757,263 (hereinafter referred as “Olds”).

Regarding amended claims 1 and 16, Olds discloses a method for operating a relay station having a directional antenna configured to forward messages from a first node to a second node using a wireless physical layer signaling protocol, the method comprising:

- (a) receiving from the first node a wireless transmission for delivery at the second node (see Figs. 1 and 2, col. 6, lines 25-35, wherein the router 34 receives the packet from the source and transmits the packet to the intended destinations);
- (b) determining an identification of the second node from an initial portion of the wireless transmission (see Figs. 1 and 2, col. 5, lines 49-57, wherein the router 34 reads at least portions of packets (i.e., an ID) based upon specified criteria);
- (c) determining, using the second node's identification, a preferred antenna angle for the directional antenna (see Figs. 1 and 2, col. 5, lines 66-67, and col. 6, lines 1-9);
- (d) steering the directional antenna according to the preferred antenna angle (see Figs. 2, 3, and 8, col. 6, lines 9-24, col. 9, lines 4-9, col. 10, lines 26-36);

(c) retransmitting the wireless transmission to the second node using the directional antenna (see Figs. 1 and 2, col. 5, lines 50-54).

Regarding amended claim 3, Olds discloses the wireless transmission is received from the first node using a substantially omni-directional antenna (see Figs. 3 and 8, col. 6, lines 20-25, and col. 10, lines 20-30).

Regarding amended claim 4, Olds discloses the wireless transmission is received from the first node using the directional antenna (see Fig. 2, col. 5, lines 66-67, and col. 6, lines 1-9).

Regarding claim 5, Olds discloses the directional antenna is operated in an omni-directional antenna mode (see Figs. 3 and 8, col. 6, lines 20-25, and col. 10, lines 20-30).

Regarding claim 6, Olds discloses determining the identification of the second node comprises utilizing messages at a protocol layer higher than a physical layer (see Figs. 2, 4, and 5, col. 6, lines 61-65, col. 7, lines 60-67, and col. 8, lines 1-9).

Regarding claim 8, Olds discloses determining the identification of the second node comprises utilizing a link layer establishment message of a link protocol layer (see Figs. 2, 4, and 5, col. 7, lines 36-43, 60-67, and col. 8, lines 1-5).

Regarding claim 9, Olds discloses the link-layer establishment message is a Request To Send (RTS) message (see Figs. 5 and 9, col. 9, lines 12-22, and col. 11, lines 10-35).

Regarding claim 10, Olds discloses determining the preferred antenna angle comprises:

(a) locating the second node's identification in a lookup table storing a predetermined association between a node's identification and its preferred antenna angle (see Fig. 8, col. 10, lines 23-46);

(b) determining the preferred antenna angle from the stored association for the second node's identification (see Figs. 7, 8, and 10, col. 12, lines 32-37).

Regarding claim 12, Olds discloses the preferred antenna angle corresponds to the best angle for propagation to the second node (see Figs. 7, 8, and 10, col. 12, lines 32-37).

Regarding claims 13 and 14, Olds discloses the predetermined association between the second node's identification and its preferred antenna angle is determined by:

- (a) stepping the antenna through a plurality of directional angles (see Fig. 2, col. 5, lines 66-67, and col. 6, lines 1-8);
- (b) receiving a wireless transmission from the second node at each of the plurality of directional angles (see Fig. 2, col. 6, lines 4-8);
- (c) determining a received signal metric relating to the received signal (see Figs. 7 and 8, col. 10, lines 43-46);
- (d) identifying the directional angle having the best received signal metric (see Figs. 7 and 8, col. 10, lines 43-46);
- (e) associating the identified angle with the second node (see Fig. 7, col. 9, lines 12-22, col. 10, lines 43-46);
- (f) recording in the lookup table the association of the identified angle with the second node's identification (see Figs. 7 and 8, col. 9, lines 34-51, and col. 10, lines 24-36);

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,757,263 (hereinafter referred as "Olds") in view of US Patent 6,611,231 (hereinafter referred as "Crilly, Jr. ").

Regarding claims 7 and 11, Olds does not disclose determining the identification of the second node comprises utilizing a preamble portion of a Media Access Control (MAC) protocol layer. However, Crilly, Jr. discloses determining the identification of the second node comprises utilizing a preamble portion of a Media Access Control (MAC) protocol layer (see Fig. 2, col. 2, lines 38-50, col. 7, lines 50-67, and col. 8, lines 1-27). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine determining the identification of the second node comprises utilizing a preamble portion of a Media Access Control (MAC) protocol layer teaching by Crilly, Jr. with Olds. The motivation for doing so would have been to provide to overcome the potential bottlenecks and other related problems read on column 1, lines 58-59. Therefore, it would have been obvious to combine Crilly, Jr. and Olds to obtain the invention as specified in the claims 7 and 11.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,757,263 (hereinafter referred as "Olds") in view of US Patent 5,628,052 (hereinafter referred as "DeSantis ").

Regarding claim 15, Olds does not disclose the received signal metric is selected from the group consisting of: Received Signal Strength Indication (RSSI); Bit Error Rate (BER); noise power level; and combinations thereof. However, DeSantis discloses the received signal metric is selected from the group consisting of: Received Signal Strength Indication (RSSI); Bit Error

Rate (BER); noise power level; and combinations (see Fig. 1, col. 7, lines 3-21). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine RSSI, BER, and noise power level teaching by DeSantis with Olds. The motivation for doing so would have been to provide to analyze the best antenna read on column 2, lines 34-35. Therefore, it would have been obvious to combine DeSantis and Olds to obtain the invention as specified in the claim 15.

Response to Arguments

6. Applicant's arguments with respect to claims 1-6, 10, and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(1) US Patent 7,215,658 (Alastalo et al) discloses apparatus, and associated method, for utilizing antenna information determinative of antenna operation in a wireless mesh network.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phirin Sam whose telephone number is (571) 272-3082. The examiner can normally be reached on Increased Flexitime Policy (IFP) Program.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Respectfully submitted,

Date: March 7, 2008

/Phirin Sam/

Primary Examiner, Art Unit 2619